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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,856	08/19/2003	Wolfgang Brauer	PO-7783/LeA 36,259	6309
157	7590	10/12/2004	EXAMINER	
BAYER MATERIAL SCIENCE LLC			GORR, RACHEL F	
100 BAYER ROAD			ART UNIT	PAPER NUMBER
PITTSBURGH, PA 15205			1711	

DATE MAILED: 10/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/643,856

Applicant(s)

BRAUER ET AL.

Examiner

Rachel F. Gorr

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-9 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8-19-03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Handlin.

3. Handlin discloses a process for making a thermoplastic polyurethane by forming a prepolymer from a difunctional poly(ethylene butylene)polyol of 3454 molecular weight and diphenylmethane diisocyanate (MDI) (col. 9, lines 41-44). He then adds polytetramethylene oxide polyol of 2000 molecular weight to this prepolymer at an NCO/OH index of about 2.3. He then chain extends the resulting product with a stoichiometric amount of butane diol. He shows tensile strengths (TS) in Table 2, and, in col. 7, lines 8-21, he shows chain extending in an extruder. He differs from the claims by not disclosing a continuous process.

4. It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the process continuously because it's been held that continuous processes are obvious over batch processes (see MPEP2144.04-V-E).

5. Claims 1, 4, 5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy.

6. Murphy discloses the same process for making a thermoplastic polyurethane by forming a first prepolymer from MDI and a polyester (example I). Then in a separate reactor he combines this prepolymer with butane diol having a molecular weight of 90.

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In a third step, he cures, in a third reactor, with diethylene triamine (example II). Table 1 shows tensile property values. He differs from the claims by carrying out his process in batches.

7. It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out the process of Murphy continuously because continuous processes are obvious over batch processes.

8. Claims 1,2,4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asahi Chem.

9. The example of the Asahi reference of page 149, starting at the middle of the first column, forms a thermoplastic polyurethane by first reacting 1.6 moles of MDI with 0.5 moles polytetramethylene glycol having a molecular weight of 1500. The resulting prepolymer is further reacted with 0.5 mole of a polyethylenebutylene adipate of 2000 molecular weight. He then reacts the resulting prepolymer with 0.558 moles of ethylene diamine and 0.042 moles of diethyl amine. The Asahi reference differs from the claims by not showing a continuous process.

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to carry out this process continuously because continuous processes are obvious over non-continuous ones.

11. Claim 6 is objected to for depending on a rejected claim.

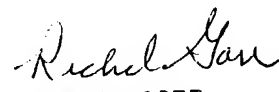
12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The other references listed on PTO 892 are those cited on the search report .

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rachel F. Gorr whose telephone number is 571-272-1072. The examiner can normally be reached on Mon., Tues., Thurs., Fri., from 7:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

R.G.  
October 1, 2004

  
RACHEL GORR  
PRIMARY EXAMINER